

WHAT IS CLAIMED IS:

1. A system for reproducing a digital TV signal, comprising a computer system and a
2 display system, the computer system comprising:
 - 3 a signal dividing means receiving the digital TV signal, and dividing the digital TV signal
4 into digital video signals and digital audio signals after a predetermined signal processing,
5 a video decoding means decoding the digital video signals outputted from the signal dividing
means into analog video signals, and outputting low frequency analog video signals by colors,
6 an audio decoding means decoding the digital audio signals outputted from the signal dividing
means into analog audio signals with a plurality of channels corresponding to
7 predetermined frequencies,
8 a plurality of frequency-modulators frequency-modulating the low frequency analog video
signals and the analog audio signals, in response to intermediate frequencies, respectively, and
9 a wireless transmitter wirelessly transmitting the signals modulated by the frequency-
modulators; and
10 the display system having:
 - 11 a plurality of first wireless receivers wirelessly receiving the analog audio signals
12 transmitted from the wireless transmitter, via the channels,
13 a plurality of first frequency demodulators respectively connected to the first wireless
receivers and frequency-demodulating the analog audio signals,
14 a plurality of second wireless receivers wirelessly receiving the analog video signals
15 transmitted from the wireless transmitter,
16 a plurality of second frequency demodulators respectively connected to the second

22 wireless receivers and frequency-demodulating the analog video signals by the colors, and
23 display and audio apparatuses outputting the video and audio signals demodulated
24 by the first and second frequency demodulators, respectively.

1 2. The system according to claim 1, wherein the signal dividing means is comprised of
2 a digital TV tuner card including a tuner receiving the digital TV signal, a VSB (Vestigial Side
3 Band) demodulating part demodulating a high frequency signal received by the tuner into a VSB
4 analog signal, a Viterbi decoder transforming the VSB analog signal into a digital signal, and a
5 demultiplexer dividing the digital signal transformed by the Viterbi decoder into the video signal and
6 the audio signal.

1 3. The system according to claim 2, wherein the video decoding means includes a video
2 decoder decoding the video signal outputted from the digital TV tuner card into R/G/B signals, and
3 a video signal transforming part transforming the R/G/B signals into Y/Pb/Pr low frequency analog
4 video signals.

1 4. The system according to claim 2, wherein the audio decoding means includes an
2 audio decoder decoding the audio signal outputted from the digital TV tuner card into six audio
3 signals corresponding to 5.1 channels in an AC-3 manner.

1 5. The system according to claim 4, wherein the audio apparatus is comprised of six
2 speakers applicable to the 5.1 channels.

1 6. The system according to claim 1, wherein the wireless transmitter and the first and
2 second wireless receivers are comprised of at least one antenna, respectively.

1 7. A system for restoring a digital video signal, comprising a computer system and a
2 display system, the computer system comprising:

3 a video signal outputting means outputting the digital video signal,

4 a video decoding means decoding the digital video signals outputted from the video signal
5 outputting means into analog video signals, and outputting low frequency analog video signals by
6 colors,

7 a plurality of frequency-modulators frequency-modulating the low frequency analog video
8 signals into high frequency signals, in response to intermediate frequencies, respectively, and

9 a wireless transmitter wirelessly transmitting the signals modulated by the frequency-
10 modulators; and

11 the display system comprising:

12 a plurality of wireless receivers wirelessly receiving the analog video signals
13 transmitted from the wireless transmitter,

14 a plurality of frequency demodulators respectively connected to the wireless receivers
15 and frequency-demodulating the analog video signals by colors, and

16 a display apparatus outputting the video signals demodulated by the frequency
17 demodulators.

1 8. The system according to claim 7, wherein the video signal outputting means is
2 comprised of a digital TV tuner card including a tuner receiving the digital TV signal, a VSB

3 (Vestigial Side Band) demodulating part demodulating a high frequency signal received by the tuner
4 into a VSB analog signal, a viterbi decoder transforming the VSB analog signal into a digital signal,
5 and a demultiplexer dividing the digital signal transformed by the viterbi decoder into the video
6 signal and the audio signal.

1 9. The system according to claim 8, wherein the video decoding means includes a video
2 decoder decoding the video signal outputted from the digital TV tuner card into R/G/B signals, and
3 a video signal transforming part transforming the R/G/B signals into Y/Pb/Pr low frequency analog
4 video signals.

1 10. A system for restoring a digital audio signal, comprising a computer system and an
2 audio system, the computer system comprising:

3 an audio signal outputting means outputting the digital audio signal,
4 an audio decoding means decoding the digital audio signals outputted from the audio signal
5 outputting means into analog audio signals after dividing the digital audio signals corresponding to
6 a plurality of channels having predetermined frequencies,

7 a plurality of frequency-modulators frequency-modulating the low frequency analog audio
8 signals into high frequency signals, in response to intermediate frequencies, respectively, and

9 a wireless transmitter wirelessly transmitting the signals modulated by the frequency-
10 modulators; and

11 the audio system comprising:

12 a plurality of wireless receivers wirelessly receiving the analog audio signals
13 transmitted from the wireless transmitter,

14 a plurality of frequency demodulators respectively connected to the wireless receivers
15 and frequency-demodulating the analog audio signals corresponding to the channels, and
16 an audio apparatus outputting the audio signals demodulated by the frequency
17 demodulators.

1 11. The system according to claim 10, wherein the audio signal outputting means is
2 comprised of a digital TV tuner card including a tuner receiving the digital TV signal, a VSB
3 (Vestigial Side Band) demodulating part demodulating a high frequency signal received by the tuner
4 into a VSB analog signal, a viterbi decoder transforming the VSB analog signal into a digital signal,
5 and a demultiplexer dividing the digital signal transformed by the viterbi decoder into the video
6 signal and the audio signal.

1 12. The system according to claim 11, wherein the audio decoding means includes an
2 audio decoder decoding the audio signal outputted from the digital TV tuner card into six audio
3 signals corresponding to 5.1 channels in an AC-3 manner.

1 13. The system according to claim 12, wherein the audio apparatus is comprised of six
2 speakers applicable to the 5.1 channels.

1 14. A method for restoring a digital TV signal, comprising the steps of:
2 dividing the digital TV signal into a digital video signal and an digital audio signal after a
3 predetermined signal processing;
4 decoding the digital video signal into low frequency analog video signal, by colors;

5 decoding the digital audio signal into analog audio signal with a plurality of channels
6 corresponding to predetermined frequencies;
7 modulating the low frequency analog video and audio signals into high frequency signals
8 having predetermined intermediate frequencies, respectively;
9 transmitting at least one of the frequency-modulated video and audio signals by wireless;
10 receiving at least one of the transmitted video and audio signals and demodulating the
11 received signals; and
12 outputting at least one of the demodulated video and audio signals to display and audio
13 apparatuses.

1 15. The method according to claim 14, wherein the step of decoding the digital audio
2 signal comprises the step of transforming the digital audio signal into six signals corresponding to
3 5.1 channels.

1 16. The method according to claim 14, wherein the audio apparatus is comprised of six
2 speakers applicable to 5.1 channels.

1 17. A system for reproducing a digital TV signal, comprising:
2 a computer system comprising:
3 a digital TV tuner card for receiving the digital TV signal and separating an audio
4 signal and a video signal in MPEG-2 format from the digital TV signal for output;
5 an AC-3 audio decoder for receiving the separated audio signal and outputting 5.1
6 channel audio;

7 a video decoder for receiving the separated MPEG-2 video signal and outputting an
8 R/G/B video signal;

9 a video signal converter for receiving the R/G/B video signal and outputting a
10 Y/Pb/Pr video signal;

11 a wireless module separately modulating each video component and each audio
12 component of said Y/Pb/Pr video signal and said 5.1 channel audio using different center
13 frequencies, combining the modulated signals and wirelessly transmitting the combined
14 signal from a first antenna; and

15 a display system comprising:

16 first through sixth antennas and corresponding first through sixth demodulators for
17 receiving the combined signal and outputting recovered 5.1 channel audio to a speaker
18 system; and

19 a seventh antenna and seventh through ninth demodulators for receiving the
20 combined signal and outputting recovered Y/Pb/Pr video signals to a digital TV for display.